GSIR2011-1

Faculty of
INTERNATIONAL RELATIONS

THE GSIR

WORKING PAPER SERIES

ISSUES FOR EFFECTIVE INTERNATIONAL ASSISTANCE FOR POST-DISASTER RECONSTRUCTION:

THE CASE OF CYCLONE 'AILA' IN SOUTH-WESTERN BANGLADESH

SHINGO TADA

JUNE 2011

Shingo Tada
Master Program
Graduate School of International Relations, Ritsumeikan University

Issues for Effective International Assistance for Post-Disaster Reconstruction: The Case of Cyclone '*Aila*' in South-Western Bangladesh

Shingo Tada[1]

Abstract

This paper aims to illustrate some of the issues for the international society in providing support for post-disaster relief and reconstruction in developing countries. It draws on the case of disaster management in Bangladesh, with a focus on the relief and reconstruction work which took place after Aila, the cyclone that hit the southwestern coastal region of the country in 2009. The analysis suggests that issues of untimely strike of the cyclone, lack of ready fund for emergency, and governance are the main reasons for the delay in the reconstruction work on the damaged polder in the cyclone-hit region. It will be argued that the prolonged suffering of the local people was due to tide intrusion into the polder through the breaches on the embankments which had been caused not only by Aila but also by the lack of proper management of the embankments. The paper will conclude by suggesting that in emergency relief provision, there is a need for assessing the necessary support not simply on the scale of the disasters and the death toll but also on the local reality of primary, as well as possible secondary disasters. Disaster risk reduction requires the governments of developing countries as well as the donor community to learn from the local people's knowledge in identifying the place-specific risks and measures to mitigate them.

Introduction

Recent years have witnessed an increase in the frequency of natural disasters in developing countries, largely due to global warming. This requires the international society and developed countries particularly, to provide affected countries with far more effective support for post disaster relief and reconstruction work, along with enhancing the on-going support for disaster management as well as adaptation to climate change impacts.

The purpose of this study is to identify some of the issues of concern for the international society in meeting the need of more effective support for post-disaster reconstruction. The argument will be drawn from the case of cyclone 'Aila' that hit the southwestern coastal region of Bangladesh in May, 2009. Based on the result of the field study carried out in September 2010, this paper analyzes the organizational process of and the remaining issues in the post reconstruction efforts among the line government offices, intergovernmental organizations, and local as well as foreign non-governmental

[1] Master student at the Graduate School of International Relations, Ritsumeikan University (Kyoto, Japan). Email: fellow21@hotmail. com

organizations for the past 15 months. It will then explore the factors behind the delayed reconstruction work on a damaged polder in the disaster stricken districts. Building on those findings, policy implications concerning the better ways of providing external support for post-disaster reconstruction will be presented.

The following sections present the framework of the study, followed by an explanation of the research methodology. Section 3 gives a broad overview of the damages caused by Cyclone Aila, and the institutional framework for disaster management in Bangladesh as well as how it actually worked in the case of Cyclone Aila. Section 4 analyzes the factors behind the delayed recovery from the major damages in the Aila hit area. Finally, this paper concludes with pointing out the lessons learnt for a more effective international cooperation in post-disaster recovery and development.

1. Overview and Perspectives for Research

Today, as one of the countries most prone to water-related disaster in the world, Bangladesh faces growing threats of sea-level-rise, as well as increasing frequency and scale of destructive disaster such as cyclone and tidal surge (Lewis 1997: 49). Recent experiences with two consecutive cyclones Sydr and Aila (November 2007, May 2009) in the coastal region of southwestern Bangladesh may exemplify this tendency. A consortium of some major international and local NGOs; The Emergency Capacity Building Project (ECBP) have reported that about a year after its strike, some 125,000 people were still living in makeshift shelters on the embankments with their basic human needs unmet (ECBP 2010)2. This was allegedly due to the delay in the reconstruction work on the damaged polder and accompanying inundation of houses and fish farms. Why has this delay in the reconstruction work occurred? My hypothesis was, firstly, that it may be due to a lack of fund, financial or technical support which in turn could be due to an underestimation of the cyclone damages by the government and the donor communities. The second factor identified to explain such delay was linked to governance related issues, such as a weak performance of communicating data and information on the local damage and needs, lack of decentralized decision making as well as policy implementation based on these needs, and insufficient inter-ministerial or cross-sectional coordination for smooth relief and reconstruction services.

My study relating to the current contribution mainly focused on the financial aspect of the post-Aila reconstruction work. It encompassed the conditions which determine the scale and allocation of the fund for the post-disaster relief and reconstruction among the sectors and levels of government offices, and those which constrained the government to procure sufficient fund for reconstruction.

Since the scale of Aila was smaller than Sydr, the loss of human life was smaller. If the extent of support is decided based on the toll of the dead and missing, the concern and support of the international society toward the Aila-hit societies and Bangladesh government for reconstruction could have been limited due to this apparently lower number, despite the fact that a chain of damages had actually caused prolonged harm on the houses and the livelihood of a far bigger number of the local people.

[2] The Emergency Capacity Building Project in Bangladesh is consortium that includes Care, Catholic Relief Service, Concern Worldwide, World Vision, Oxfam, and Save the Children.

2. Methodology

Source of information for this study include secondary data drawn from the reports published by United Nation, both international and national NGOs, statistical data of the cyclones published by Ministry of Food and Disaster Management, semi-primary data from local newspapers, and the primary data obtained from the interviews with local people during my field study for 11days in September 2010. All the information obtained through these interviews was dealt and analyzed as the qualitative data for policy consideration over the issue of effective support provision for post-disaster reconstruction in the developing countries.

3. Process and Problems in the Post-Aila Relief and Reconstruction

The International society now faces dynamic global environmental changes. Today, natural disasters, such as floods, droughts, earthquakes and cyclone, as well as other extreme natural events occur in increasing frequency. These incur serious consequences particularly in developing countries due to limited financial, technological, and institutional capacities. They thus pose serious direct and indirect challenge to development as well as human security (El-Masri and Tripple, 1997: 1-2). 'Human activities must be adapted not only to reduce the change itself, but also to respond to the effects of that change' (UNDP, 2008). In developing countries, the importance to face and cope with increased variability and extremes of events, to share the knowledge of disaster risk reduction measures, far exceeds that for the developed countries.

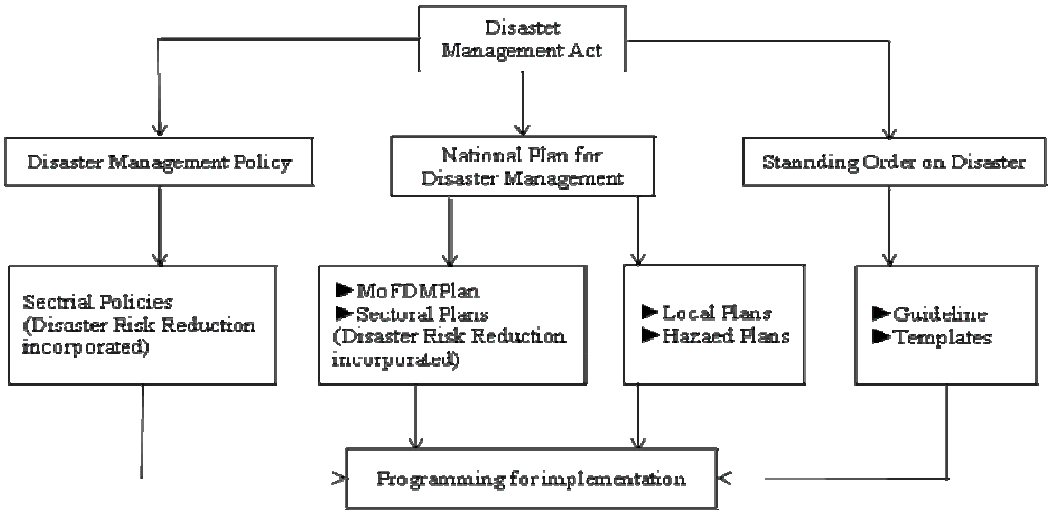
Bangladesh is a cyclone-prone country and they can hit every year, anywhere in the country. According to a report from the United Nations Office for Project Services (UNOPS), two floods and a cyclone together fatally affected the nation's supply and agriculture in 2007. Most seriously, the consecutive disaster killed about 4,000 people and caused economical loss of approximately US$3 billion in the same year.

3.1 Disaster Management System

It is crucial to know what drives post-disaster reconstruction and how it works in actual framework at governmental unit because they determine extent of the post reconstruction work. Figure 1 shows the disaster regulative framework in Bangladesh. The overarching Disaster Management Act, not yet approved in the parliament at the time of study, will be enacted with a view to create a legislative tool and legal basis under which all the disaster risk and emergency management will be undertaken in Bangladesh (MoFDM, 2010: 44).

Shingo Tada
Master Program
Graduate School of International Relations, Ritsumeikan University

Figure 1: Disaster Management Regulative Framework

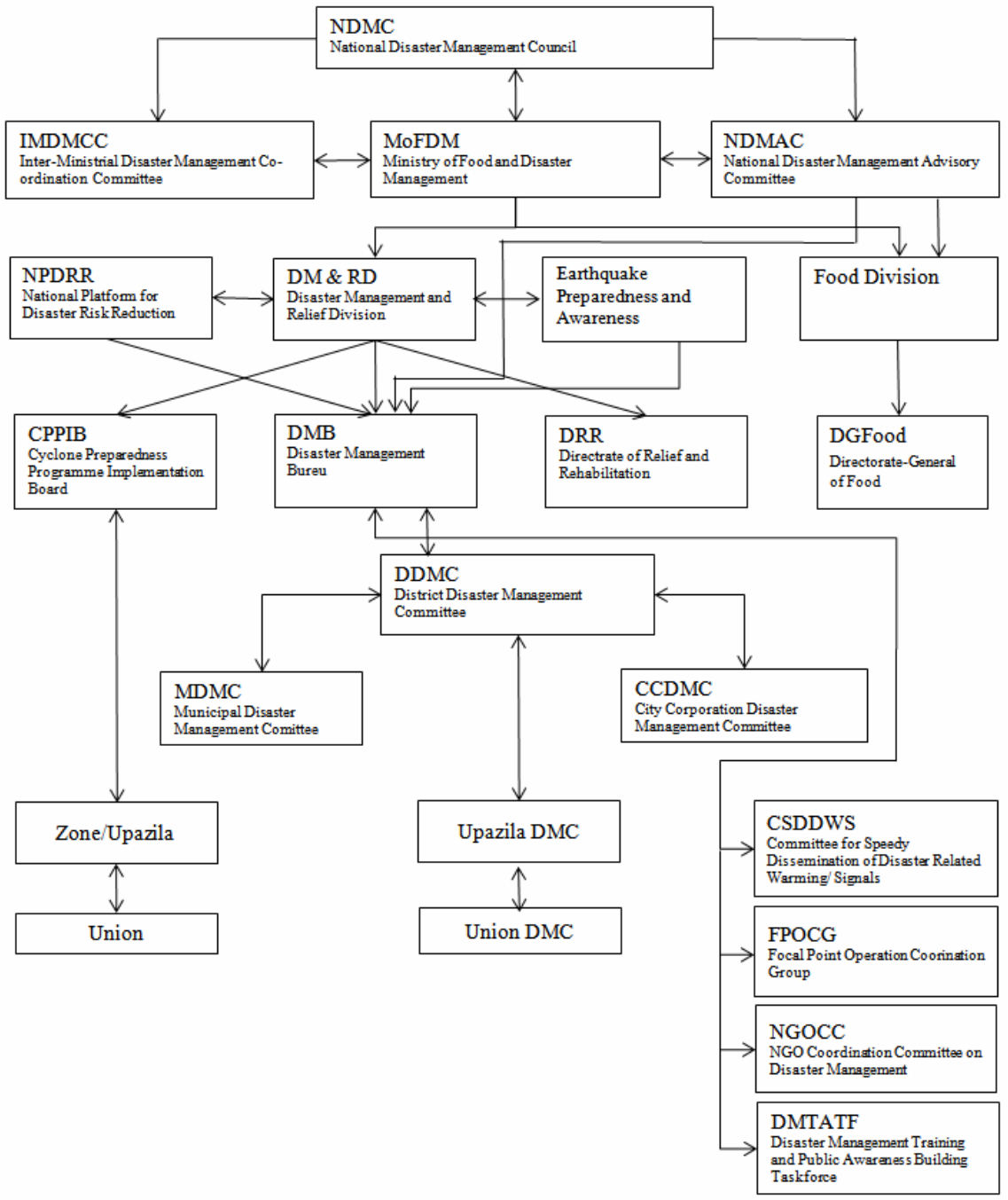


Source: Based on FoFDM, 2010: 46

Figure 2 describes the institutions legally defined to be involved in disaster management activities based on the above shown regulative framework in Bangladesh. This framework has been going through an important reform under the Comprehensive Disaster Management Program (CDMP) launched by the Ministry of Food and Disaster Management in 2003, in partnership with Department for International Development (DFID) and UNDP.

CDMP is a strategic institutional and programming approach to reduce the risk and to generate a paradigm shift in disaster management. This program focuses on ensuring a comprehensive and well coordinated approach to community risk reduction with treatment designed around prevention, preparedness, and response and recovery strategies. In the program, the communities within high risk areas are given the heist priority as the immediate beneficiaries of the program interventions among others (MoFDM, 2004). They include community based organizations, all line government departments or agencies involved in development planning activities as well as NGOs and private sector. As seen above, the program signifies a shift of policy weight from post-disaster relief and recovery to the pre-disaster risk reduction, prevention and capacity building.

Figure 2: Disaster Management Institutions in Bangladesh



Source: Based on FoFDM, 2010: 43

3.2 Cyclone Aila: Features

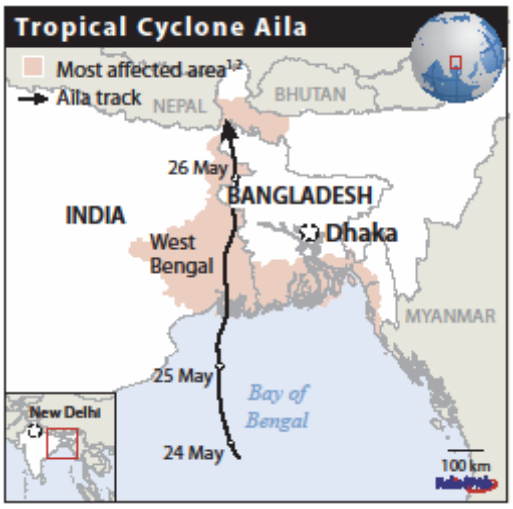
Cyclone Aila was a severe cyclonic storm, with the lowest estimated central pressure about

967 hPa (IMD, 2009: 5) at the time of landfall on the coast of Bangladesh (MoFDM, 2009: 5). It stayed longer than previous big cyclone, Sidr, landed in November 2007. Although the wind speed of Sidr increased up to 240 kph (km per hour), Aila kept its speed with 70 to 90 kph (km per hour) (MoFDM, 2007: 1). This is one of the reasons why the storm caused prolonged suffering.

There was also a difference between the two cyclones in terms of timing. Cyclone Aila landed during the full moon in May which is the highest tide in a year, with five meters depth of the river water. Sidr hit the same area in 2007 during ebb tide with approximately two to three meters depth.

Aila hit less than two years after the catastrophe of Sidr and before the reconstruction work has been fully accomplished to recover from its damage. By tradition, cyclones routinely come to Bangladesh, but not in such a short term. As such, the unexpected wave of cyclone hit unprepared people.

Figure 3: Path of Aila



Source: FAO, SWERA, UNCS, 2009

As a result, Cyclone Aila caused 190 deaths and affected a great deal of residents, homesteads, roads and embankments (Picture 1 and 2, Table 4). In total, over 3.9 million people were affected (UN, 2010: 3) and nearly 350,000 acres of crop land were destroyed. Moreover, the damage to embankments extended to an area of 1743 km (MoFDM, 2009), causing a serious secondary disaster of widespread and prolonged post-cyclone inundation in the broken polders.

The network of embankments in this area is constitutes of some polders (lower land protected by circles of embankment against tide water) and plays an essential role for the daily life of local people living within those polders. Most of the broken polders have not yet been repaired at the time of my visit, September 2010. The higher parts of the land for homesteads as well as the lower parts for agriculture and fishing were still kept under sea water. Some 125,000 people were still living in makeshift shelters on the embankments with highly unsafe and insecure conditions.

Picture1: Homestead hit by Aila (Koyra, August 2009, Taken by Miwa Okurar)

Picture2: One of the breaches on the embankments (Shyamnagar, September 2010, Taken by Author)

Shingo Tada
Master Program
Graduate School of International Relations, Ritsumeikan University

Table 3: Damage Report of Cyclone “Sidr”

No.	District Name	Affected Household	Affected Population	Damaged Houses		No. of Death	No. of Injured People	No. of Missing People	Damaged Roads(km)	
				Fully	Partially				Fully	Partially
1	Barisal	230,085	846,076	41,470	92,242	97	0	0	0	0
2	Jhalokath	149,202	763,211	69,685	76,108	47	16,206	0	495	1,313
3	Pirojpur	192,831	1,011,359	63,896	80,315	400	1,161	511	383	1,259
4	Barguna	217,279	843,669	95,412	96,245	1,292	16,310	26	614	1,294
5	Bhola	28,771	147,718	15,389	20,300	42	61	14	25	87
6	Patuakha	252,300	611,125	53,291	132,369	457	8,500	221	0	838
7	Khulna	112,476	525,616	17,323	67,011	18	173	0	11	67
8	Satkhira	42,862	212,133	5,293	12,245	20	4	1	50	25
9	Bagerhat	283,482	1,221,788	118,899	130,675	810	11,428	0	60	1,174
10	Goplagan	55,494	257,354	24,133	85,000	35	20	0	46	0
11	Madaripu	92,300	595,000	4,991	7,509	41	119	0	0	0
12	Shariatpu	95,562	423,023	27,993	54,325	17	1,232	0	0	0
13	Faridpur	38,635	154,540	1,000	37,635	16	0	3	0	0
14	Rajbari	755	3,775	3,789	755	1	0	0	0	0
15	Dhaka	3,036	15,180	15	3,036	6	2	0	0	0
16	Narayang	14,164	57,998	476	5,156	12	0	0	0	0
17	Munshiga	21,590	102,322	2,804	5,548	8	18	0	0	23
18	Narshingc	60,558	306,538	24	5,280	3	5	0	0	0
19	Chittagon	3,759	15,295	603	5,181	21	0	92	30	70
20	Cox's Baz	2,004	8,555	40	1,499	7	0	0	0	21
21	Noakhali	33,740	217,300	980	2,200	1	35	0	0	150
22	Feni	35	156	45	300	0	0	0	0	0
23	Laxmipur	9,988	55,695	1,479	6,652	2	1	1	0	0
24	Chandpur	38,133	175,579	10,342	15,443	5	0	0	0	40
25	Comilla	14,119	70,527	806	3,412	0	0	0	0	0
26	Jessore	55,902	223,608	295	405	2	7	2	0	0
27	Narail	8,592	35,024	3,629	6,177	1	0	0	0	0
28	Moulaviba	149	755	60	89	2	0	0	0	0
29	Kishorgar	5,473	18,140	55	2,628	0	0	0	0	0
30	Manikgan	750	4,200	750	1,370	0	0	0	0	0
	Total	2,064,026	8,923,259	564,967	957,110	3,363	55,282	871	1,714	6,361

Source: Calculated by the author based on the data from Ministry of Food and Disaster Management (MoFDM), Relief Control Cell (RCC): Updated on 27 December 2007, compiled at 09.30 BST

Table 4: Damage Report of Cyclone “AILA”

No.	District Name	Affected Household	Affected Population	No. of Death	No. of Injured People	Damaged Roads(km)		Damaged Embankments(km)
						Fully	Partially	
1	Barisal	7,094	292,105	11	121		692	25.3
2	Pirojpur	27,085	248,470	1		295	631	33.48
3	Barguna	23,578	284,079			83	290	77.57
4	Bhola	109,018	584,970	18	201		1,635	219
5	Patuakha	104,613	804,426	8	610	914	1,632	285
6	Khulna	113,034	546,630	57	543	372	627	597
7	Satkhira	156,398	563,783	59	5,357	180	99	292.4
8	Bagerhat	56,601	497,036	4		291	742	85
9	Chittagon	2,311	13,630	1	10	58	121	38
10	Noakhali	9,411	62,204	24	255	40	100	63
11	Laxmipur	4,635	30,905	7	6		52	26.78
	Total	613,778	3,928,238	190	7,103	2,233	6,621	1,743

Source: Calculated by the author based on Relief Control Cell, Ministry of Food and Disaster Management; Data Date: June 10, 2009, 1600 BST

Shingo Tada
Master Program
Graduate School of International Relations, Ritsumeikan University

3.3 Relief Activity

The government of Bangladesh and international community acted for the relief provision immediately after Aila. This section describes how these actual relief activities were undertaken under the disaster management framework.

According to UN, the government provided the bulk of relief assistance including food, cash, drinking water, emergency medicine and other non-food materials to Aila affected communities. Food and cash were distributed under the Government's Vulnerable Group Feeding (VGF), Vulnerable Group Development (VGD) and Gratuitous Relief (GR) programs, which account for almost 90 percent of all relief assistance (UN, 2010: 4). The government also engaged for some emergency repair of embankments to halt sea water inundation during high tide. Under this 40 day Cash for Work programs, 6,637 households in two Upazilas of Khulna district and 19,330 households in two Upazilas of Satkhira are receiving 120 taka3 per day for day-labor work. This program started in March 2010 and ended in May of the same year (UN, 2010:4).

The Government of Bangladesh (GoB) called for international assistance as a national emergency response when Cyclone Sidr came, but the government did not appeal for any assistance from the international society immediately after Cyclone Aila hit the country (UN, 2010). It appears that the government thought that it would be able to fully manage the situation. It later realized, however, that more funds were needed for further reconstruction work and long-term rehabilitation, such as raising the embankments, fixing damaged houses and building strong cyclone shelters (Uttaran, 2010: 12). On June 19, 2009 the government made a US$1,149 million appeal to the international community for reconstruction work and rehabilitation in the affected districts (ECBP, 2010: 5), which has not been fully met due to some reasons.

Table 5: Summary of GoB Assisitance

Item	Amount	Status
Gratuitous Rice	36,500 MT	Completed
Cash Grants	1,288 Lakh	Completed
Shelter Grants (cash)	3,002 Lakh	Completed
Food Assistance (VGF)	7,649.6 MT	Ongoing
Agriculture Support (crop)	3,497 Households	Complited

Source: Relief Division, DMB, 21 April 2010 & DAE Upazila Officers, 26 May 2010 cited in UN Joint Assessment, 2010: 5

The international community provided assistance to a number of intergovernmental, governmental and non-governmental organizations working in the most affected areas well before the formal appeal of the GoB (UN, 2010, p5). Nevertheless the overall relief and reconstruction work have not been sufficient to maintain the local people's lives, and a great deal of people still lived in vulnerable condition in September 2010.

3 70 taka is about US$ 1 as of September, 2010.

Table 6: Summary of International Donor Assistance

Donar	Amount (USD)	Sector(s)/ Activity(ies)
ECHO	11.93 million	Food Assistance, Health & WASH
EU	6.63 million	Shelters
DFID	1.58 million	NFIs, Settlement Support (through IOM)
SDC	1.31million	Livelihoods & WASH
Government of Spain	.66 million	Food Assistance (through WFP)
WFP	18.5 million	Food Assistance
UNICEF	1.5 million/ .54 million / .75 million	WASH/ Education/ Health/ Nutrition
FAO	.5 million	Agriculture
UNDP	.25 milion	Livelihoods
WHO	.10 million	Emergency Medicine & WASH
TOTAL	44.25 million	

Source: UN Joint Assessment, 2010: 5

The Comprehensive Disaster Management Program has been started and strengthened in Bangladesh since 2003. Aila was much smaller than Cyclone Sidr in its scale. Relief and reconstruction work have been being provided to some extent by GoB and the international community. Yet after more than a year has passed since May 2009, a great number of people were still living in the vulnerable conditions with their minimum basic human needs remain unmet (ECBP, 2010).

In recent years, the highest policy priority has been placed on the adaptation to, and risk reduction of climate change impact in the world. For this purposes, the government of Bangladesh has been asking for financial support from the developed countries and has managed to secure sizable amount4. The national policy framework has also shifted from post disaster response to pre-disaster risk reduction. In these circumstances, it seems that the government's preparedness and capacity for short term post-disaster responses have been relatively reduced.

3.4 Reconstruction Work

Thousands of residents in the polder have been surviving in extreme difficulty. The situation in which saline water comes into the polder twice a day from broken point at the embankment significantly affects the local life and economy. People cannot resume agricultural nor fish cultivation in an open water body subject to the tidal-level charges. Local government officials were aware that reconstruction work of the polder should be the first priority for the rehabilitation of people's normal life.

Reconstruction work of embankment can be done only during the dry season Heavy

[4] In 2008, the United Kingdom has agreed to provide Bangladesh at least £50million (about $71 million) in grants over the next five years to enable it to recoup the losses caused by the recent natural calamities, including the prolonged floods and cyclone Sidr (The Guardian, London, 8 September).

rain fall and increased water depth have not allowed reconstruction work of the embankment in this area. Also the tidal range is notoriously changeable especially in rainy season. Reconstruction work needs to wait for dry season to come.

While reconstruction work needs to wait for the dry season to begin, it had partially been done for a short period remaining before monsoon season both by the government (Water Development Board: WDB) and local people. In Bangladesh, WDB, which is under the Ministry of Water, is the only legal entity which executes construction and reconstruction on embankments that covers the area more than 1,000 hectare. On this ground, WDB earlier did not allow any reconstruction work to be done by local people. It was because of the pressures by the local people as well as international organizations that WDB accepted some portion of emergency reconstruction done by local people under the Food for Work arrangement founded by WFP (Interview with local NGO official, 2010). A local NGO official said the potion repaired by local people endured better during the rainy season than those done by WDB .

During the following first dry season, the progress made by WDB was not swift enough to complete the work before the next monsoon. In early April 2010, the prime minister, Sheikh Hasina, presiding over the National Disaster Management Council's meeting, blamed the authority's failure to complete the embankment reconstruction by January and ordered immediate measure for expediting the reconstruction and for the rehabilitation of the Aila affected people before the monsoon (New Age, 8 April 2010). Similar criticism and claims were being made by some officials of the local NGOs which have been working to support the victims of Aila (ECBP, 2010).

3.5 Daily life still not recovered

In this sub-section, the degree by which local people have now recovered from the damages caused by Cyclone Aila is assessed5.

Water and Health

Most of the water sources (Ground Water with Tubewells and Open Ponds with Shallow Tubewells) are affected by salt water from the sea and many tubewells are out of order. In three unions of Gabura, Dacope and Koira, the most affected areas, assuming 2 litre of water/per person/day, about 14.2 million litre water supply is needed to meet the drinking needs of the people. However, DPHE and other NGOs have only been able to supply 0.11 million litre, leaving a gap of about 14 million litre (Paul, 2010). Many people have had to take boats to cross the rivers to get drinking water, while others have been trying to collect rainwater (Interview with a villager, Shamnagar). In the villages located in coastal area alongside the Bay of Bengal (such as Kholpetoa village in Gabura Union of Sathira District, Shyamnagar Upazila), people have had to travel on average four kilometers by small boats to collect drinking water provided by local and international NGOs (Rashid, 2010).

According to the post-disaster assessment conducted after one month by Save the Children, diarrhea and skin disease were the major infectious diseases in Aila-affected areas

5 There are presently no reports in terms of any crime, such as trafficking, robbery due to the cyclone. This is different in contrast to the other disaster-stricken area, such as Haiti in 2010. It is apparently due to governance function of GoB.

(SVC, 2009). There was one diarrhea-suffering patient in nearly every household, and skin rashes and urine infection often spread in the affected areas. This was mainly due to the high degree of salinity of the water. People also got infections by taking baths in ponds, particularly, in the Southwestern region, which is the most salinity-prone area in Bangladesh (Uttaran, 2010). In the case of the two affected areas, the salinity rate was up to 10,000 parts per trillion, while the other parts of the country averaged 200 PPT.

Although incidence of infectious diseases including diarrhea and skin-infection are on the rise, the conditions for present health service were getting worse at the time of one year-after assessment. About 80 percent people were not getting access to the health facilities. Only 3percent to 4 percent people were able to reach Upazila clinic or hospitals, while the rest had to depend on natural healers (ECBP, 2010: 5).

There has been very limited support available for rehabilitation of the health sector, as the first assessment reported minor damage in the health sector and no significant outbreak of disease. Due to the lack of reconstruction work and still deteriorated structural situations, people have thus been kept without access to basic health care service (UN, 2010, p11).

Housing and Food

Housing has been on the highest demand among the affected people. GoB has been providing 20,000TK6 to each family as subsidies when they completed the reconstruction of their houses (Interview with local boatman, Koyra), but only minimum necessity for the house repairment have been supplied so far, such as blue tarpaulins. Villagers demand more supply (Interview with local boatman and local NGO officer, Koyra).

In Shamnagar, thousands of people evacuated from their houses to the evacuation sites. However, a significant shortage of public shelters have left many having to manage small makeshift shelters on roads and have been living there in a state of extreme vulnerability. An affected resident emphasized that a house in which family can live in safety was of top priority among his needs, along with employment for livelihood (Interview with an affected resident in Shamnagar).

20kg rice per family per month is provided under governmental support program and 30kg rice, and 5kg pulses and 3kg vegetable oil are monthly provided under WFP-assisted Country Program (UN, 2010). Since electricity is not in service, local residents have been making clay pots to cook rice.

In spite of this seemingly constant provision of minimum amount of food, local people cannot depend only on it for long and now expect employment for their income earning to meet their varied needs. This changing demand for wider exchangeability and autonomy in the course of time after disasters are typically expressed by a local boatman who said to me that he rather expected 'Cash for Work' program for his livelihood (Interviewed in Koyra), and in the words of a woman from Shamnagar:

> "We don't want relief. But provide us scope of work that we can earn and maintain our livelihood" (Concern Worldwide 2009)

6 $1 US = 70 TK as of September, 2010

Livelihood

The two major livelihoods of Satkhira and Khulna districts, crop and fish farming, have been suffering significant damage and loss due to the continuous inundation of the paddy fields and shrimp farms/fish ponds by saline water. According to the Department of Agriculture Extension, only a minor portion of total cropland in four Upazilas including Koyra and Syamnagar, on which this study place its focus, was possible to bring under cultivation after Aila. Since Cyclone Aila, the salinity rate in the soil increased and extensive areas of cropland are still being inundated due to broken embankments and high tides coming through them into the polders to inundate whole place twice a day. This situation hinders residents from cultivating aman rice. An estimate by the Department of Fisheries and FAO indicates that shrimp production was reduced from normal year's 2,350.14 kg/h to 470.03 kg/h (UN, 2010: 8).

Even after a year has passed since Aila hit the areas, a significant number of affected people are still suffering from loss of livelihoods and decreases in income. Poor households typically reduce their food purchases and compromise their food consumption habit by having fewer meals per day, less quantity of food per meal and less nutrient-rich food items (UN, 2010: 9).

Around 60 percent of the affected people in Satkira and Khulna districts have gradually recovered by getting support from GoB, UN and/or NGOs. However, the rest of the people, about quarter of whom includes the affected people in Koyra and Syamnagar Upazila, have not recovered due to loss of their livelihoods and productive assets like houses, crops, livestock, poultry, fishes/shrimps, fishing boats/nets, etc. One fourth of this 40 percent of the affected people were still residing on embankments and seriously in need of food and drinking water. During the rainy season, the monsoon hampers the people's daily activity because rising water with high salinity level intrudes into the breached embankments. It is to be noted that even the repaired parts of the embankments have already been damaged by high tides (UN, 2010: 10).

The government measure to protect the Aila hit mangrove forest of Sundarban during its natural recovery has also added to the loss of livelihood of the local people. In these areas, the local people used to go deep into the forest and collect resources like leaves, honey, timber, fish and crab both for their own use and for selling. However, after Cyclone Sidr in 2007, the GoB decided to restrict their entrance to the forest only during March to May with a prior permission from the GoB (UN, 2010).

In this circumstance, people of working ages either migrate other region in search of job opportunities, or struggle to survive locally, mainly by earning small income from boat operation or simple open-water fishing in inundated polders. However, these local options have surely been constrained by the limited availability of local boats after Aila. The majority of the people lost their boats or had to sell them and their livestock in order to maintain their livelihood.

Picture 3: People Crossing by Boat (Shyamnagar, September 2010)

Picture 4: A man and even a lady fishing in an inundated polder for survival (Koyra, August 2009)

One villager from Shamnagar Upazila was a fisherman and used to earn about 100TK a day before Aila (Interview with a villager). He presently earns 50TK per day by working for digding and carrying mud and sometimes operating boat. In his case, one boat is shared with several other people since only a few boats left available.

For another villager from Koyra Upazila, honey collection was a major source of livelihood before Cyclone Aila (Interview with a villager). This activity used to bring him about 2,000TK per month, but now he operates a boat and earns 100 to200 TK per day. This means that, although he was affected by the government restriction on people's entrance into Sundarban, he is now earning a higher income than before.

Embankment-cum-roads remain badly damaged and cutoff in many points, leaving the local people to depend on the limited numbers of boats for traveling to more distant places to collect drinking water/food and other necessity. This certainly brings the villager better income than before but will remain so only until the completion of reconstruction work on the embankments.

Education

Cyclone Aila damaged 5,043 educational facilities or institutions in all the affected districts (UN, 2010: 7). Immediately after Aila, the international NGO, Save the Children-UK created a children education project, called Child Friendly Space (CFS), which ran for 5 months in the two affected areas, Khulna and Satkhira districts. However, many children did not come back to school even a year after since Cyclone Aila because they joined their family works, such as collecting relief packages and drinking water (Save the Children, 2009). Even if their schools were not been damaged much, which is almost impossible for the two affected area (Joint Assessment Consortium, 2009), children are unable to commute to school due

Picture 5: a School hit by Aila (Shyamnagar, September 2010)

to the rough condition of the roads. As such, 90 percent of the students have to use boats which require them to pay for boat fare to commute to school (Joint Assessment Consortium, 2009).

4. Factors Behind the Prolonged Sufferings of People

This section will explore the factors behind the overall delay in the recovery and the prolonged suffering of the people in the Southeastern coastal region in Bangladesh. It should be noted that two things have to be considered separately as the major factors for the 15month-long suffering of the Aila-affected people; one is the delay in post-Aila reconstruction work, and another is the collapse of polders as the source of secondary disaster.

4.1 Reasons for the Delayed Reconstruction Work

Untimeliness

As earlier mentioned, Cyclone Aila hit the area only two years after Cyclone Sidr, in the midst of the recovery process. Furthermore, it occurred shortly before the monsoon season. This has made the WDB wait until the dry season, at least four or five months, before they launching a full-fledged reconstruction work.

Shortage of Ready Fund for Emergency

The fund for emergency reconstruction work was not sufficiently available for WDB after Aila, since much of the ready fund needed to be spent for relief activity. GoB made an appeal to the international community for US $1,149 million for rehabilitation use, but it seems to have been unsuccessful for some reasons (ECBP, 2010)7. This necessitated WDB to follow the normal, and time consuming procedures of project application and implementation after the government approval as well as open tendering (Interview with NGO officials, 2010).

Governance Issue

While waiting for the start of full-fledged reconstruction work, local people were only exceptionally allowed to carry out partial reconstruction work under the Cash for Work arrangement. During the tendering and project implementation period, there was no room for people to check the process of tendering and the practice of unnecessary repetition of subcontracting (reselling of the contract) as well as quality of the work by contractors (Interview with Uttaran, 2010). Doubts of corruption between WDB officials and contractors and complaints about the poor quality of their work were so much uttered by the villagers as well as those involved in relief activities. In fact, the work created further need of reworking on deteriorating parts. This lengthy process, in addition to lack of

[7] The reasons for this failure of the international community to address this call by GoB were not clear. It was alleged, however, that the more severely affected areas in India had received more attention and support. It is also said that international community was reluctant to deliver additional support to GoB due to the corruption that appeared to have taken place in the post-Sidr rehabilitation process (Interview with NGO officials, 2010).

emergency fund, amounted to an overall delay in the reconstruction of the embankment and socio- economic rehabilitation.

4.2 Causes of Secondary Disaster

What bears more importance in considering the seriousness of the post-Aila situation is that beyond the immediate damages caused of Cyclone Aila, the prolonged inundation in the polder caused by the breach of the embankments represented a second disaster. We need to identify the causes behind the collapse of the embankments because it could have been well prevented if the embankments had been properly maintained.

Firstly, the embankments had been weakened by the previous cyclone. Secondly, the embankments had already been made vulnerable by the numerous pipes put through them for the purpose of bringing saline water from the sea into the shrimp farms in the polders. It is illegal to do such work, and nobody except the WDB is officially allowed to do any construction work on the embankments. Yet this illegal piping into the embankments had not been effectively controlled. It had been overlooked because of the importance of income earned by shrimp production for export as well as the influence exerted by some powerful shrimp farm owners.

Furthermore, the increasing degree of siltation on the bed of the rivers around the polders has had the effect of intensifying the force of tidal surge. The problem of the river siltation has been a long prevailing in this region for more than 20 years. It had been caused by the lack of sufficient velocity of water flow in the river. That has been obstructed both by the polders themselves and by the upstream water diversion at Farakka in India. WDB's failure to solve this drainage congestion, in addition to failure to properly maintain the embankments are the central factors to consider when assessing the causes of the secondary disaster.

The natural process of infrastructural weakening were accelerated by such illegal activities and have resulted in the breach of embankments and following inundation, which should thus be delineated as the secondary, and largely manmade disaster.

4.3 Lessons Learnt

Three lessons can be drawn from the above analysis as the challenges to be tackled by the government as well as the people of Bangladesh.

One is related to the need of strengthening existing embankments which have been built more than 30 years ago. The ongoing CDMP seemingly lacks this initiative for infrastructural reinforcement as one of the risk reduction approach. It may require, however, far more integration and coordination between the Ministry of Water and the existing but separate framework for water resource management.

The second point is concerned with the improvement of governance in infrastructural and resource management. The destructive behavior of illegal piping into the embankments by some locals should be controlled in order to reduce the risk of a secondary disaster. Furthermore, the quality of the post-disaster reconstruction work by the government and contractors should also tightly be monitored by the local stakeholders. Information disclosure might be necessary for this purpose.

For the purpose of risk-reduction, river management such as removing the siltation on the river bed for reducing the risk of drainage congestion might bear more importance than strengthening of embankments, especially with a view to preparation for the worst case among all the potential risks.

Finally, and in connection to this last point, a meaningful involvement of local people is needed both in pre-disaster risk identification and reduction, as well as in the post-disaster reconstruction process. They need to be involved in identifying where there is the risk of embankments breach and of drainage congestion in the rivers for the purpose of pre-disaster risk reduction, while they should also be involved in post-disaster reconstruction work on the damaged parts of embankments in exchange with temporary daily income. This is to say that they need to share and take part in knowledge building and decision making on the necessary options and methods of infrastructural and resource management for the purpose of disaster management.

Though the people's meaningful participation still remains largely as a blueprint in the present framework for Comprehensive Disaster Management, there is already an notable experience that posits a sign of positive change. In 1998, WDB made a remarkable policy change in the Khulna-Jessore Drainage Rehabilitation Project (1995-2004), by newly adopting so-called Tidal River Management (TRM) approach in place for the initial structural approach to the lingering local problems of river siltation and water logging in the polders in this region.

TRM method has been developed by the local people through their own attempts to solve these problems. The leaders of several local NGOs and Civil Society Organizations played key roles in communicating between different groups of stakeholders, combining their environmental knowledge acquired through the past experiences and negotiating with WDB as well as Asian Development Bank (ADB) which financed the project (Interview with Pani Committee)8. The local people's rising demand for the long-term sustainable solution to the problems was repeatedly delivered to WDB and ADB by the local leaders and moved ADB to suggest WDB to conduct an environmental impact assessment (1997-1998) and reconsider the approaches of the ongoing project.

This event signifies a pioneering case of joint knowledge building between the government and the local people, and of an adaptive water resource management for a more effective risk reduction and disaster management.

5. Policy Implications for the International Donor Community

The preceding sections of the paper have shown that the process of post Aila reconstruction was not effective enough and took a long time to recover for the scale of cyclone itself. This study has explored the causes behind the delay and has suggested rooms for improvement in the ongoing process of reforming the country's disaster management framework.

[8] This measure, based on the traditional practice of making a temporary soil embankment (*Astonomosh Bhad* in local term which literally means "eight-month period embankment) is now officially named as Tidal River Management (TRM). In TRM, embankment protecting a polder is cut and kept open for about five years. During this period, silt-laden high tide is introduced into the polder. The silt remains in the polder and make its land higher and more favorable for cultivation, while the silt-free ebb tide become strong enough to clear the silt on the river bed. TRM is now considered also as an effective way of adaptation that could reduce the risk of the coastal sea-level-rise (Interview with Pani Committee members).

At least two policy implications for the international donor community can be drawn from the above considerations.

One is related to the need to precisely understand the damage from a disaster. It seems that the GoB was not the only actor who has initially underestimated the extent of damage caused by the cyclone due to its relatively moderate intensity and the limited number of the casualties. The degree of harm from disasters and the factors which might be combined to cause a chain of further damage vary according to the local geographical and social conditions as well as the past interventions made for economic development. The international community thus needs to extend its emergency relief provision both in terms of volume, area, and duration, depending on the identified local needs.

Another issue relates to the need of reducing the risk of secondary disaster which are man-made in many cases. Two measures were identified above for this purpose, namely the reinforcement of existing infrastructures and the integration of people's knowledge of disaster-inducing risks as well as the methods to reduce such risks in their surrounding environment (river siltation in the case of Aila-affected area, for example).

Taking into account the fact that many of disaster preventive infrastructures in developing countries might have reduced their resilience against disasters by now, increased cooperation will be called for, notably in the policy context of a need to adapt to the impact of climate change. It is at this point,where the donor community need to learn more from the local people and their experiences in identifying the specific risk to be prioritized and the measure to tackle it.

The present international efforts for adaptation to the impacts of climate change seem to center on the experts' knowledge of global environmental science and largely lack such type of efforts mentioned above. However, actual policies to be carried out for adaptation to the impacts of climate change and disaster management are bound to be place specific. They thus need to be drawn more from place-specific environmental knowledge and experiences of the locals as illuminated in the case of the South-western coastal Bangladesh. The international cooperation need to be more geared to the promotion of constructive dialogue between the local people and the governments in the developing countries for their joint knowledge building on their place specific environmental insecurities, rather than on a general policy framework of a global standard.

References

Asian Disaster Reduction Center (ADRC), *Information on Disaster Risk Reduction of the Member Countries: Bangladesh*, From <http://www.adrc.asia/nation information.php?NationCode=50&Lang =en&NationNum=13> Retrieved 2 February 2011.

Lovell, Catherine H. 1992, *Breaking the Cycle of Poverty: The BRAC Strategy*, Kumarian Press, West Hartford, Conncticut.

Joint Assessment Consortium, 2009, *In-depth Recovery Needs assessment of Cyclone Aila affected Areas*, Action Aid, Concern Worldwide, DanChurchAid, Muslim Aid, Islamic Relief, Oxfam-GB and Save the Children-UK.

Curran, S. R. and Perecman, E., 2002, *A Handbook for Social Science Field Research: Essays & Bibliographic Sources on Research Design and Methods*, Sage Publications, Thousand Oaks, California.

Disaster Management Bureau, 2008, *National Plan for Disaster Management 2008-2015 (Final Draft for Approval)*, Ministry of Food and Disaster Management, Government of the People's Republic of Bangladesh, from <http://www.cdmp.org.bd/cdmp_old/reports/National_Plan_for_DM_Finaldraft_12_08_08.pdf> Retrieved 5 February 2011.

El-Masri, Souheil and Tipple, Graham 1997, Urbanization, Poverty and Natural Disaters: Vulnerability of Settlements in Developing Countries, *Reconstruction After Disaster: Issues and Practices*, Ashgate, Aldershot, England.

Emergency Capacity Building Project Bangladesh Consortium (ECBP),2009, *Swelled sufferings: Challenges After 3 months of Cyclone Aila.*

2010, *One Year On- Plight of Cyclone Aila Communities Countries*, from <http://www.ecbproject.org/where/bangladesh> Retrieved 7 February 2011.

ECBP and Campaign for Sustainable Rural Livelihoods (CSRL), 2010, *Testimony of Journalists*, from <http://www.reliefweb.int/rw/RWFiles2010.nsf/FilesByRWDocUnidFilename/MYAI-85RB5T-full_report.pdf/$File/full_report.pdf> Retrieved 10 February 2011.

Government of People's Republic of Bangladesh, 2004, *Comprehensive Disaster Management Programme (CDMP) Project Number BGD/01/004*, Ministry of Food and Disaster Management (MoFDM), Dhaka.

_____2007, Super Cyclone Sidr 2007: Emergency Responseand Action Plans Interim Report, MoFDM, Dhaka.

_____2008, *National Plan for Disaster Management 2008-2015* (Final Draft for Approval), MoFDM, Dhaka.

_____2009, *Summary of Cyclonic Storm "Aila"* (TUE-26-May-2009:0500), Disaster Management Information Center (DMIC), Disaster Management Breau (DMB)

Haque, Rezaul, 2010, *Draft Study Proposal on Aila Affected Areas and Alternative Nonstructural Approach to Mitigate Aila Type Disaster.* Shushilan. Khulna.

Hayashi, Isao 2010, *Shizen Saigai to Fukkou Shien (Natural Disaster and Reconstruction)*, Akashi Shoten, Tokyo.

Islam, Mahmudul, 2010, *Policy, Legal and Institutional arrangements for Disaster Management*, Presentation Handout at Personal Lecture on 15 September, 2010.

Katsumata, Makoto, 2001, *Grobaruka to Ningen no Anzen-Hosho (Globalization and Human Security)*, Nihon Keizai Hyoron-sha, Tokyo.

Lewis, James, 1997, "Development, Vulnerability and Disaster Reduction," in Adenrele Awotona (Ed.), *Reconstruction After Disaster: Issues and Practices*, Ashgate Aldershot, England.

Mohammad, Harun or Rashid, 2008, *Implementing Standing Orders on Disaster (SOD) at Union Level: The Case of Kakua Union, Tangail District and Kazipur Union of Sirajganj District, Bangladesh*, Master Thesis, BRAC University.

Ohashi, Masaaki and Murayama, Mayumi, 2009, *Bangladesh wo Shiru tameno 60 Shou (60 chapters to know Banbladesh)*(2nd ed) , Akashi Shoten, Tokyo.

Paul, Reba, 2010, *Impacts of Alia, post Aila water problems and delayed reconstruction of embankment in Aila affected areas in Bangladesh*, Presentation Handout, Bangladesh Water Partnership (BWP), Dhaka.

Sato, Hiroshi, 1998, *Kaihatsu Enjo to Bangladesh (Development Aid and Bangladesh)*, Asia Keizai Kenkyusho. Chiba.

Sato Ikuya 1996, *Field Work: Sho wo motte machi he deyou (Field Work: Let us go out to town with books)*(9th ed), Shin-yosha, Tokyo.

Sato, Makoto, 1996, *Chiiki Kenkyu Chosa wo Manubu Hito no tameni (For Those Who Study Field Research Methodology)*, Sekai Shisosha, Kyoto.

Save the Children, 2009, *Child Protection Rapid Assessment*, Save the Children Australia, East Melbourne.

Scheyvens, R. and D. Storey (eds.), 2003, *Development Fieldwork: A Practical Guide*, Sage Publications, (city!!!!!!).

Seki, Reiko, 2009, *Kankyo no Shakaigaku(Sociology of Environment)*, Yuhikaku-arma

Mukai Shiro, 2003, *Bangladesh no Hatten to Chiikikaihatsu (Growth and Regional Development of Bangladesh)*, Akashi Shoten, Tokyo.

UNEP, ISDR, 2008, *Environment and Disaster Risk: Emerging Perspectives*, from <http://www.unisdr.org/eng/about_isdr/isdr-publications/joint-pub/Environm

ent_and_disaster_risk.pdf> Retrieved 15 February 2011.

UNEP, UNOPS, 2010, *Disaster Management in Bangladesh*, from <http://www.unops.org/SiteCollectionDocuments/Factsheets/English/Success%20Stories/GBL_PJFS_CDMP_EN.pdf> Retrieved 20 February 2011.

United Nations, 2010, *Cyclone Aila: Joint UN Multi-Sector Assessment & Response Framework*, United Nations, New York

Uttaran, 2010, "Aftermath of Cyclone Aila: Humanity cries in Southwest Coastal Region in Bangladesh, " in *Rivers & Communities* (1), Uttaran, Tala.

Newspaper Articles

April 8, 2010, "Mitigate Aila Problems before Monsoon," *New Age*, from <http://www.newagebd.com/2010/apr/08/front.html#2> Retrieved 15 September 2010.

May 20, 2010, "Government Programme to Distribute Drinking Water to Aila Victims," *New Age*, May 20, 2010, from <http://www.newagebd.com/2010/may/20/nat.html> Retrieved 15 September 2010.

September 8, 2008, "International: UK gives £50m to Bangladesh climate change fund." *The Guardian (London)*

Shingo Tada
Master Program
Graduate School of International Relations, Ritsumeikan University

Acknowledgements

I owe so much to all the people I met and interviewed with in Dhaka and Khulna regions during my visit in September 2010; the villagers in the Aila affected area, and the officials of the following organizations, for lots of information of high importance for this study: the Government of Bangladesh (both central and local), Pani Committee, Save the Children Bangladesh, Shushilan, UNDP, and Uttaran. The detailed lectures by Professor Muhamadul at University of Dhaka and Mr. Harun or Rasid at SCB, and the materials made and provided by Ms. Reba Paul at Bangladesh Water Partnership, were truly informative. This study could not work out without all these information, and their warmhearted understanding and acceptance of as well as assistance to my study. I also wish to express my sincere gratitude to a graduate student, Ms. Sraiya Nasrine from the University of Dhaka for her effective Bengali-English interpretation for me, and to Mr. Hassan for his safe drive. Furthermore, many thanks go to Dr. Okura in Ritsumeikan University whose insightful and encouraging comments made my research perspective more purposeful, and took the significant time to review the paper and refine my approach to the research.

The author would be grateful to hear any comments and ideas about this paper, or to hear about any error or necessary omission which I will rectify as early as possible.